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DS-5

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IS INCREASED

EFFICIENCY IN FARMING
ALWAYS A GOOD THING ?



DS5

This pamphlet is the fifth of the materials prepared for the assistance of rural discussion groups in 1936-37 through the cooperation of the Extension Service and the Agricultural Adjustment Administration of the U. S. Department of Agriculture. It is not intended to direct attention to any particular point of view or conclusion, and no statement contained herein should be construed as an official expression of the Department of Agriculture. The materials listed below attempt to present, in readable, non-technical language, discussions of issues related to rural life. Their contents are not offered as either complete or orderly presentations, but as collections of current facts and attitudes which may be of use to rural people who are thinking about these questions for themselves.

Materials have been prepared for the 1936-37 season on the following topics:

- DS-1. What Should Be the Farmers' Share in the National Income?**
- DS-2. How Do Farm People Live in Comparison with City People?**
- DS-3. Should Farm Ownership Be a Goal of Agricultural Policy?**
- DS-4. Exports and Imports—How Do They Affect the Farmer?**
- DS-5. Is Increased Efficiency in Farming Always a Good Thing?**
- DS-6. What Should Farmers Aim to Accomplish Through Organization?**
- DS-7. What Kind of Agricultural Policy Is Necessary to Save Our Soil?**
- DS-8. What Part Should Farmers in Your County Take in Making National Agricultural Policy?**

Two pamphlets on technique, intended primarily for the assistance of leaders of rural discussion groups and forums, are also available:

- D-1. A Brief Guide to Methods (revised 1936).**
- D-2. How to Organize and Conduct County Forums (revised 1936).**

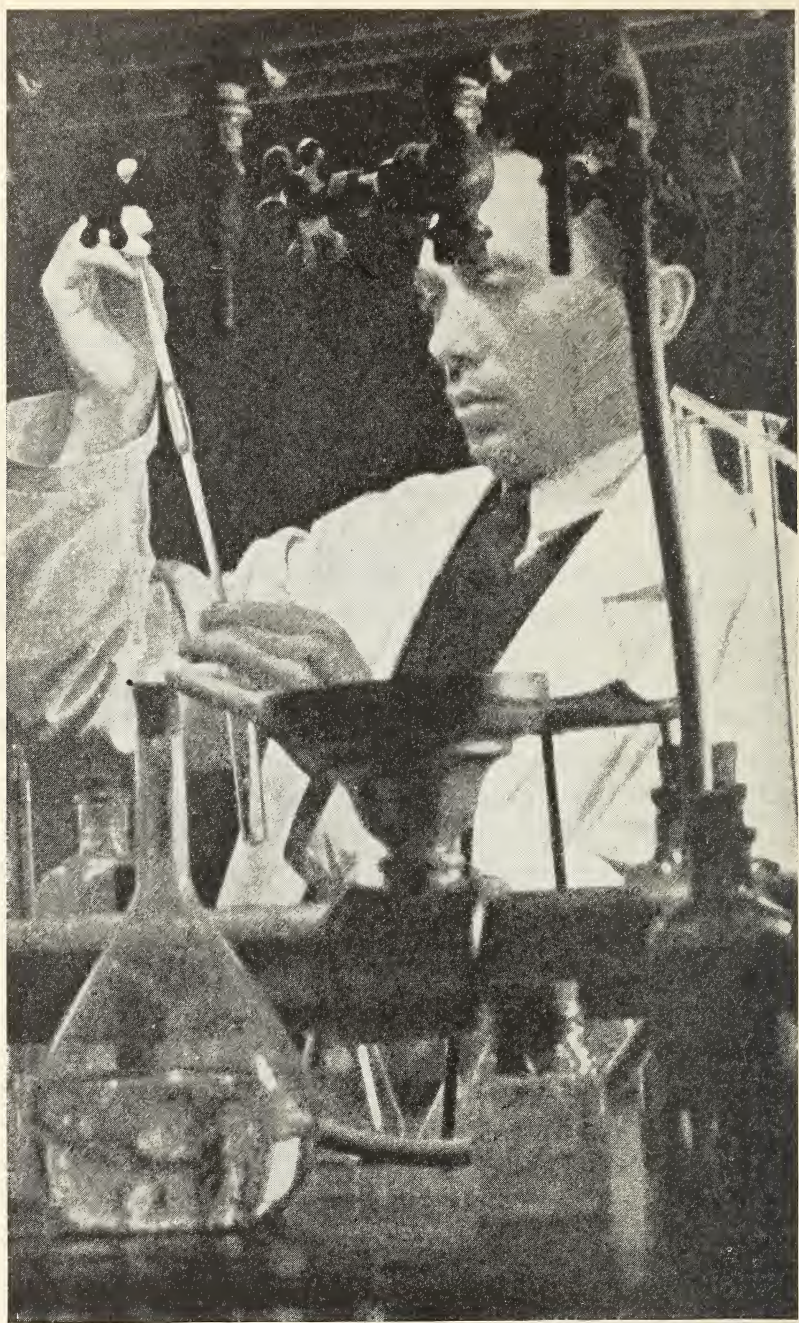
United States Department of Agriculture

The Extension Service and the
Agricultural Adjustment Administration cooperating
(Cotton Picker Photograph by the Inventors,
Other Photograph by Works Progress Administration)
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IS INCREASED EFFICIENCY IN FARMING ALWAYS A GOOD THING?

The impact of the machine age on farms and cities has been the subject of much discussion. Where do you stand on the following questions?

1. What new machines have been introduced on the farms and in the households of your neighborhood in recent years? What has been their effect?
2. What changes, other than the use of machinery, have made farming more scientific in your locality?
3. In your opinion, what is there to be said for the effort to make two blades of grass grow where one grew before? What against?
4. Do you know of cases where the building of new factories or expansion of old ones has made it possible for farm people to get jobs in towns and cities? Do you know of cases where the increased use of machinery in factories has thrown people out of jobs?
5. If the number of city jobs does not increase at the rate it was increasing before the depression, what will become of the children now growing up on the farms?
6. Do you think that the nation should provide a system of social insurance for those who can't find jobs?
7. How do you think machines might be used to the greater benefit of those who use them? As to efficiency? As to leisure? As to lowered prices for consumers? As to wider distribution of goods?



**What Is Science Doing To Agriculture?
For Agriculture?**

IS INCREASED EFFICIENCY IN FARMING ALWAYS A GOOD THING?

"The trouble with farmers," says a man who spends his life in a scientific laboratory, "is that they don't keep up with the times. When the rest of the world moves on they don't even know it. They just keep doing the same old things that they've always done, year in and year out."

"Well, if they do keep doing the same old things," a middle-aged farmer comes to the defense of his fellows, "isn't it because they have a pretty steady job? The people of the United States want to have food to eat and clothes to wear and they look to the farmer to produce them. 'Under all, the land', as we say. Looks to me like doing the same old thing is doing something pretty important."

"Sure, it's important," concedes the laboratory man, "But why should you make a ritual out of it, as though raising the country's food was something sacred? Business men don't feel that way about the things they supply for the country to consume. Why doesn't the farmer see that farming is a business? Business men stand right outside the laboratory door to see what's coming and figure out how they can use it in their business. THIS IS A SCIENTIFIC AGE. But when it comes to making use of science, THE FARMER'S AT THE TAIL-END OF THE PROCESSION."

SCIENTIFIC CHANGES ON THE FARM

"Is he, now?" a traveling salesman for a farm machinery company speaks up. "The firm I work for did a 51 million dollar business last year. That sounds as though the farmer is willing to pay good money for scientific inventions."

"If you knew how farming was done when I was a boy," one of the older men in the group backs up the salesman's statement, "you'd know whether or not the farmer had taken up with NEW WAYS OF DOING THINGS. Look at the machinery that's in the shed on our farm today. Start with the tractor and all the attachments that go with it. There are nigh onto a million like it on farms in this country, and we farmers spend around 400 million dollars a year just to keep our cars and tractors going. I don't know which we'd miss most if we didn't have it, our tractors or our trucks. Didn't have either fifteen years ago, but I don't know how we'd get along without them today. Then take the changes I've seen in harvesting machinery. Fewer horses in sight nowadays, and just enough men to keep the machinery going. I remember when the railroads used to haul carloads of harvest hands jammed in like chickens in a crate."

"My folks have a place in the fruit country," a visitor takes up the tale, "and that orchard of theirs is fertilized every spring with commercial fertilizer and sprayed from a mechanical sprayer filled with carefully mixed chemicals five times every season. There's scientific farming for you."

"If you're after something that's just the last word in applied science," says a teacher who spent her summer seeing the country by bus, "you ought to see people in the South dusting cotton fields by airplane to kill the boll weevil. I've heard they dust potatoes that way in Maine, too."

NEW APPLIANCES IN THE FARM HOME

"Well, I can show you what science has done for farming without going outside my kitchen," a farmer's wife puts in a word. "First of all, there's no old oaken bucket in my life as there was in my mother's, and my family doesn't take its baths in a galvanized tub in the kitchen. If you drop in on Monday, I'll show you my washing machine in action. If it's Tuesday, you'll find me using my electric iron. Stop by

on Wednesday, and I'll be taking some vegetables out of the pressure cooker. You might give me a ring on the telephone before you start over. Later on in the week I'll be getting at the children's new clothes and you'll hear the whirl of the sewing machine. If you come at milking time, I'll take you down to the cellar a minute so you can have a look at the separator. And of course you can listen to the radio any time."

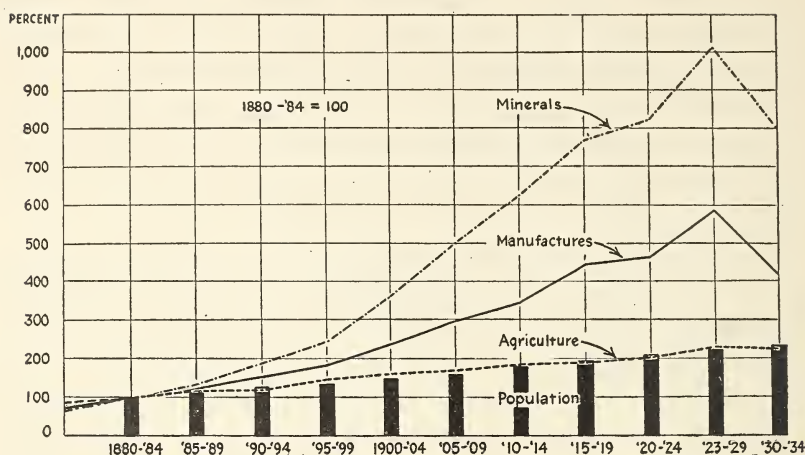
"That's quite a showing, all right," says the laboratory man, "but HOW MANY FARMERS' WIVES HAVE THE MECHANICAL HELP that you have? Not 2 farms in 10 in this country are like yours in having running water; on the other 8 farms the farmer's wife still carries into the house every drop of water she uses—and carries it out again. It's the same with electricity; only 1 farm in 9 is served by a power line. The other 8 housewives couldn't use your washing machine and electric iron even if they had them. Radios are a little more widely distributed, but at that, less than 3 out of 10 farm women can listen to music or other programs as they do their work. And not 4 out of 10 farms have telephones."

"Just the same," the salesman comes back into the picture, "I say that any group that spends 330 million dollars on implements, as farmers did last year, and supports around 31,000 city workers with a payroll of about \$900,000 a week, is geared right into the machine age."

"But THE USE OF MACHINERY IS ONLY PART OF THE STORY OF SCIENCE AND THE MODERN FARMER," adds another member. "Look at all the experimental work that's done on soils, on plant and animal breeding, on diseases and pests, on farm practices, not to mention the search that's always going on for new products."

"Well, I still stick to what I said," repeats the laboratory man, "the farmer hasn't a scientific attitude, and all that's been said so far confirms my opinion. Just because in our grandfathers' time it was the job of the farmer to feed and clothe the people, farmers today keep right on thinking that that's still the only job they have to do."

Production in Agriculture and Industry



"Now look at what's happened in the last 50 years. Agricultural production has risen gradually, just keeping pace with our increase in population. That's natural enough, since the demand for foodstuffs is just about so much per person. But if you turn from agricultural production to production of minerals, what a different story! Mineral production has shot way up above agricultural production. Production of manufactured articles, for which minerals supply the bulk of the new materials, has also mounted at a rate far in advance of population increase.

FARM MARKETS IN INDUSTRY

"That shows where economic opportunity lies. People's demands for manufactured goods are not limited the way people's demands for foodstuffs are. THE FARMER AND THE CHEMIST NEED TO GO PARTNERS, and then the farmer can sell his products as raw materials to the manufacturers of the country, and get a share of the market for what up to now have been called non-agricultural commodities."

"Yes, but AT WHAT PRICE?" challenges a man who sets a lot of store by country ways of living. "The more the farmer gets tied up with industry, the more he becomes

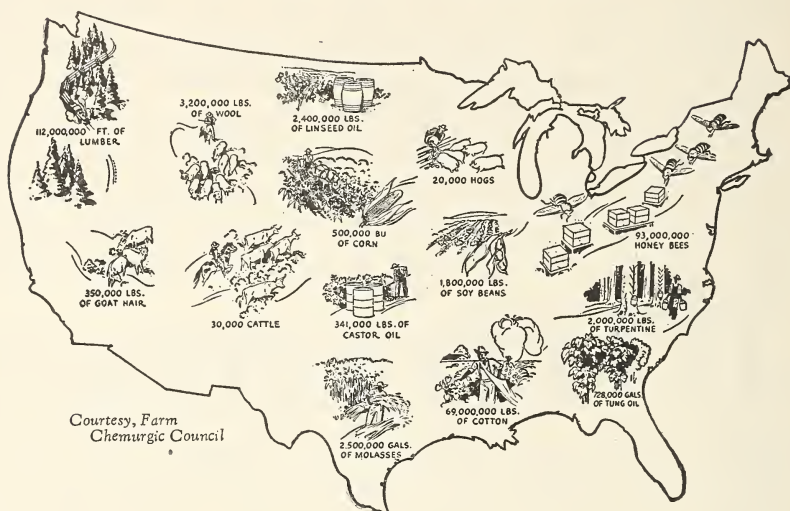
just one cog in the economic machine, going round and round, doing one little specialty. The further you push efficiency on the farm, the more the farm becomes like a factory. Next thing we know corporations will be running farms just the way they run plants in the city. Family-sized farms will be thrown together into big units under specialized management, and the farmers who used to own them will find themselves laborers just like factory hands in the city, with their jobs all laid out for them and no chance to use their own judgment or live their own life."

"Well, I don't think that's coming right away," a young farmer who graduated from college a few years back tries to soothe him. "And I do think there's a lot to what the scientific people say about FINDING MARKETS IN INDUSTRY, if farmers don't want to have to make permanent cuts in their production. Look at the facts. During the first part of this century, we farmers not only had big sales abroad; we had a market at home to which immigration was adding as many as a million people a year. Now foreign markets have dropped off, and experts seem to think the country is on its way to a period of stationary or even falling population. So unless we find some other uses for our products than food and clothing, it looks to me as though we'd have to scale our production down to what a stationary population requires."

"Right you are," approves the laboratory man, "and if farmers had only put the energy into getting a home market among manufacturers that they've spent these last 10 years trying to get back an export market among foreigners, they'd be somewhere today."

"Not that quite a lot of progress hasn't been made, of course. During the last ten years only about two fifths of the American cotton sold in this country has been used for clothing, with another fifth going for household uses. The remaining two fifths have found a market as industrial raw materials, with uses that range from high-speed automobile roadbeds to explosives."

What the American Farm Now Supplies in One Year for One Make of Automobile



"Or you can get at it another way. The farm products that one automobile company in this country buys for its cars include cotton, corn, soy beans, wool, cattle, molasses, linseed oil and turpentine. That's what I mean by the kind of industrial opportunity that farmers seem slow to grasp."

UPS AND DOWNS OF INDUSTRIAL MARKETS

"Well, now, let's back up and look at all this," cautions an older farmer. "Is it such a good thing for farmers to tie up too closely with the domestic market, especially with the industrial part of the domestic market? You say one automobile company used all those farm products in 1935. How many did it use in 1932, I wonder? When the depression came, farmers took a beating on price, all right, but people did keep on buying food and cotton clothing. Lots of factories, on the other hand, shut down tight and cancelled orders. What I want to know is, WHICH WAY IS THE FARMER BETTER OFF, if he sells his products as food and clothing IN A MARKET WHOSE DEMAND IS MORE OR LESS CONSTANT, or if he sells

his products as raw materials for factories IN A MARKET WHOSE DEMAND IS SOMETIMES LARGER, BUT OFTEN LESS CERTAIN?"

EFFICIENCY AND FARM RETURNS

"I'd like to back up one step farther than you," interjects another farmer, "and look at this farm machinery question again. Our salesman friend here is right that farmers have been willing to put a lot of money into implements these last twenty years, but I'd like to ask, what good did it do them? Looks to me as if when we put a tractor on the place we found ourselves with an agricultural surplus on the place along with it. And in harvest time I've listened too often to tractors being run by moonlight for me to take much stock in the new leisure and all of that sort of thing that machinery was supposed to bring the farmer. We haven't seen much of it out our way, and increased efficiency hasn't brought us increased returns, either."

EFFICIENCY AND FARM COSTS

"Hold on a minute," one of his neighbors puts on the brakes. "Increased efficiency may not have brought us increased returns but it has decreased our unit costs. If you look at where the principal crops are grown in this country, you'll see that production for market has largely shifted to areas where production costs are low. And it's an eye-opener to compare the livestock on our farms today with the livestock we had even so short a while ago as the end of the War. To take just one example, the cows in the herds of a large group of dairy herd improvement associations averaged 247 pounds of butterfat a year in 1920; by 1932 they had stepped up production to 310 pounds. It's the same story all round. Two and four row implements cut down labor costs. Drought resistant wheat, wilt resistant flax, early-maturing cotton, all give better results for the time and materials spent upon them.

"Now what does that mean in terms of national wealth? It means that THERE'S MORE TO GO ROUND. It means that the consumers of the country can have things that they couldn't have if farmers stuck to the old high cost methods of production. Back when this country became a country, it took all the surplus food produced by 19 farmers to feed 1 city person. In average years in recent times, 19 people on farms have produced enough food for 56 non-farm people, plus 10 living abroad.

"It's only by this sort of division of labor, with farmers feeding city people, and city people making the things farmers want, that national wealth and national income can be increased."

"I think you're right," the young farmer seconds this point of view. "Certainly we don't want to go back to harvesting our wheat with a cradle, do we? WE WANT TO KEEP THE MACHINES, AND IMPROVE THEM. But we'll have to figure things out better than we have so far to be sure that we're going to run the machines instead of the machines running us.

EFFICIENCY AND CONSUMERS' PRICES

"Looks to me as though this is what has happened. Improved methods of farming have cut the farmers' unit costs. Because of competition among farmers the savings due to lower unit costs have been passed on to consumers in the form of lowered prices. The individual farmer has figured that the only way for him to get anything out of the new methods was to increase production. But when everybody increased production, down came prices.

"Now I think it's right for consumers to be the ones to gain from scientific inventions, but that ought to be true all along the line. Because industrialists don't compete with one another the way farmers do, only part of the reduction in unit costs which science has made possible in the industrial world has been passed on to consumers of industrial products. That's where the shoe rubs. FARMERS HAVE PASSED ON THEIR GAINS QUICKLY; INDUSTRIAL-

ISTS HAVEN'T PASSED THEIRS ON NEARLY SO FAST. Some industries have for years forced consumers to pay prices which are not justified by unit costs, and which are too high to make widespread use of certain products possible."

EFFICIENCY AND EMPLOYMENT

"There's another point about the use of machinery that I think we ought to consider," the voice of the school superintendent is recognized, "and that is THE EFFECT OF MACHINES ON JOBS."

"That's another chapter in the story I was starting to tell a while back," interrupts the laboratory man. "As farmers sell more goods for industrial raw materials, new factories will be built and new jobs open up in urban areas. Farm boys and girls, as they come to working age, can do those jobs just as well as city boys and girls. We all know that the crop of youngsters raised in the country sections is bigger than the farms have room for. Factories manufacturing farm byproducts would give these young people a chance to make a place for themselves."

"In good times, yes," the superintendent continues, "but what about bad times? For a while after 1929 it looked to me as though the farms were the country's unemployment insurance. It used to make me pretty down-hearted to see children who'd gone through our school in the 1920's, and left for the city to make their fortunes, come straggling back home after 1929 as place after place shutdown. Some of them have got their jobs back lately, but I wonder if others ever will."

"That's one of the things that's been on my mind," the older farmer seconds the superintendent. "Looks like to me, THE MORE MACHINES, THE FEWER JOBS. People say that the workers whom machines throw out of their jobs will find other jobs in new industries, but there's lots of times when that isn't so easy to do."

"Suppose a successful COTTON PICKER is developed in the next year or so. We're hearing now about machines that will pick as much cotton in a day as a hundred people can. What's going to happen to the tens of thousands of

farm people who depend on cotton for a living? In recent years most of the people who have lost jobs because of technical improvements have been in the cities, but if the cotton picker comes we're going to be brought FACE TO FACE WITH THE UNEMPLOYMENT PROBLEM RIGHT OUT IN THE COUNTRY DISTRICTS.

"It used to strike me, when I saw the neighbors' sons and daughters and their families coming back home after 1929, and when I saw people who'd never been to the country before, moving into old shacks on rundown soil, that it was lucky we had places where people could get out of the grip of the machine even if there wasn't much to live on after they got there."

"Yes, I guess a lot of people were mighty thankful to tide themselves over out in the country," says the young farmer, "but we can't run our economic system that way for any length of time."

"Commercial farming is a business, and ought to be looked on as a business. We can't throw a good part of the city unemployed back on the farms whenever times are bad in the cities and expect farmers to keep their heads above water."

"And farming on a bare subsistence basis, like the people who've squatted on deserted land up in the hills, means a shrinkage of every one's markets, farm and city alike, and the lowest of living standards for the people who are doing it."

A PROGRAM FOR ECONOMIC SECURITY

"If the country is going to run a machine economy, it will have to cushion the bumps with a SOCIAL SECURITY PROGRAM that doesn't rely on the farms of the country to take care of a lot of the people whom the machines, for one reason or another, are temporarily or permanently unable to employ."

"I agree with you that a system of social insurance is necessary," the older farmer agrees, "and one that takes account of the needs of the farm population, too. But that's

not enough. All that social insurance can do is to tide over bad times and keep people who are temporarily out of jobs from having their purchasing power cut off and so pulling the market down still further. Benefits under insurance plans are only stop-gap payments, though the fact that the person who gets them is entitled to them makes them a lot less demoralizing than relief.

"But if the ups and downs of business and employment are to be steadied, and if our relief rolls are to be reduced, we've got to LEARN HOW TO USE OUR INCREASED EFFICIENCY to provide the goods that people need and the income they need to buy the goods. There's the real problem."

If you could make some improvements on your farm, what modern equipment would you buy? Would you make your choice in order to lower unit costs? To get increased returns? To lighten your work? To shorten your hours?

If you bought machinery to get increased returns, **WHAT WOULD HAPPEN IF YOUR NEIGHBORS DID LIKEWISE?**

Is it a good thing for farmers to become as dependent on the things city people make as city people are on the things farmers grow?

What do you know about the social security program now in operation? What action under its provision is being taken in your county? In what respects are farmers likely to benefit by it? Under what provisions are they excluded?

What practical steps do you think could be taken **TO LESSEN THE HARDSHIPS CAUSED BY THE USE OF MACHINES? TO MAKE THEIR BENEFITS MORE GENERAL?**

MORE ABOUT MACHINES AND THE FARMER

(Quantity prices may be secured on many of these publications)

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- THE IMPACT OF TECHNOLOGY. Henry A. Wallace. U. S. Department of Agriculture, Washington, D. C. 1936. Free.
- TECHNOLOGICAL TRENDS. Chapter on Technology and Agriculture. National Resources Committee, Washington, D. C. Forthcoming.
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- YOU AND MACHINES. W. F. Ogburn. The University of Chicago Press, Chicago, Ill. 1934. \$0.25.
- WASTE AND THE MACHINE AGE. Stuart Chase. League for Industrial Democracy, 112 E. 19th St., New York City. 1931. \$0.15.
- WILL THE MACHINE DOMINATE MAN? American Book Co., 88 Lexington Ave., New York City. 1936. \$0.10.
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- THE TVA AND ECONOMIC SECURITY IN THE SOUTH. T. L. Howard. University of North Carolina Press, Chapel Hill, N. C. 1936. \$0.15.
- JOBS OR THE DOLE? N. B. DeNood. University of Chicago Press, Chicago, Ill. 1935. \$0.25.
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- THE PROVIDENTIAL STATE. Walter Lippmann. The Atlantic Monthly, Boston, Mass. October 1936. \$0.40.
- LABOR IN SEARCH OF SECURITY. No. 5, More Security for Old People. No. 6, Security, Welfare and Sickness. No. 7, What Is Social Security. Research Division, Workers Education Bureau, 815 Mt. Vernon Place, N.W., Washington, D. C. 1936. \$0.05 each.
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- WHY SOCIAL SECURITY? Social Security Board, Washington, D. C. Forthcoming.
- SECURITY OR THE DOLE? Public Affairs Committee, National Press Building, Washington, D. C. 1936. \$0.10.
- THE AMERICAN PEOPLE AND SOCIAL SECURITY (Charts). Social Security Board, Washington, D. C. 1936. Free.
- PRODUCTION, EMPLOYMENT AND PAYROLLS IN 1935. Labor Information Bulletin, March 1936. U. S. Department of Labor, Washington, D. C. Free.